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### TECHNOLOGY AND SOCIETY: A CONFLICT OF INTEREST?

Mr. PELL. Mr. President, we are all becoming increasingly aware that advances in technology can have a broad and unforeseen impact on the quality of our lives. It was not too long ago that advances in science were hailed almost universally and without reservation as progress, and the application of new discoveries through technology was assumed to be an unmitigated good.

We now have a more sophisticated view of the role of science and technology in our society. We still anticipate the benefits of scientific research and technological development, but through experience we have learned that science and technology will serve us well only to the extent that we insist that it do so. We are gaining a new appreciation of the need to evaluate the long-range impact of technological development.

Mr. President, Representative CORNELIUS E. GALLAGHER, of New Jersey, on March 26 addressed himself to the potential conflict between technology and society in a speech before the Chicago Chapter of the Institute of Management Sciences. Representative GALLAGHER spoke specifically of the threat to human privacy posed by the new technology of information handling. I commend his remarks to my colleagues, and ask unanimous consent that the text of his speech be printed at this point in the RECORD.

There being no objection, the statement was ordered to be printed in the RECORD, as follows:

#### TECHNOLOGY AND SOCIETY: A CONFLICT OF INTEREST?

(Speech of Congressman CORNELIUS E. GALLAGHER before the Institute of Management Sciences, Chicago Chapter, March 26, 1969)

America has produced the richest and most complex society the world has ever known. The major impetus toward our unparalleled prosperity has been our ability to harness our resources and to use the gifts we have received as a nation for the benefit of our citizens. It is not an overstatement to say that technology has created America; at least in the sense that the applications of science have created the life led by most Americans. The fundamental premise of this speech is that technology should be morally neutral—it should have no values itself other than the manner in which society chooses to apply it.

Immediately, however, there can be seen numerous objections to such a premise. For example, it has often been stated that technology opens doors for man, but does not

compel him to enter. Yet, it must be realized that in the real world of free enterprise, a logic is imposed which strips such technological advance of its ideal neutrality. The first application of a new technology—the first organization through the door—is likely to make the most money while the last is likely to find it slammed in its face. Risktaking by industry is motivated by the profit factor: thus, what ever neutrality a technology may have is already diluted by the financial facts of its development and the rush for its deployment.

When the decision is made to exploit a new technology, major social and institutional change follows. It is impossible to predict the range or the character of that change. A development and deployment decision is made solely upon the first-order effects, which are customarily profit, institutional advantage, or national policy in the case of federally inspired innovation. The evaluation of the second or third-order effects, such as social costs and value dislocations, only takes place after a technology has been established.

What occurs then is a virtually dictated application of an innovation and the impact upon the rest of society only becomes visible after the technology has become operative. It is only by the time a sizable investment of money, resources, and commitment have coalesced that society can know what it has really done. The innovation itself becomes a powerful reason for continuing in that direction and the difficulties and the dangers must be, in large measure, either ignored or rationalized. To put it bluntly, the problems have been transferred from ones of engineering to ones of public relations.

To illustrate the current status of technology in America, let us imagine that technology is a heathen idol and that Americans are primitives. What have we, as a society, offered this God in the way of sacrifice?

First, we have given him our air. Our cities form the bottom of an airborne cesspool. Our atmosphere is now so polluted that natural temperature inversions threaten every single person living in large metropolitan areas. For that simplest and freest of commodities—a breath of fresh air—we must depart from our homes and our jobs. The pilgrimage to Mecca for the infidels of America is the summer vacation to a place where man has not despoiled his heritage.

It is interesting to note in this connection that we have saved the whooping crane by creating wild-life sanctuaries and imposing the strictest rules and regulations for the preservation of this species. But man, who emulates the cry that gives the whooping crane its name by his pollution inspired cough, has not been so fortunate. As columnist Arthur Hoppe has suggested, it may be necessary to establish human-life sanctuaries to assure the continuation of Homo Sapiens.

The next sacrifice we have made to the God of technology is our water. All forms of pollution are dumped into our rivers and lakes, and a fresh, pure stream near an urban area is as rare today as a polluted one was earlier in our history. Raw sewage is dumped into rivers from which downstream communities take their drinking water. Lake Erie, according to many observers, can never be reclaimed from technology's abuse. Bodies of water which have existed practically since time began, are now being ruined in a few years.

I would like to call your attention to the recent problem with offshore oil drilling near Santa Barbara. To the best of my knowledge, the crucial social question was never asked: did America need this source of oil? Was it essential to deploy such a risky procedure at this time or could the development stage have continued without deployment? It is my hope that we will learn a great deal from this catastrophic experience. But if past history is an indication, the only lesson will be to cast doubt on the validity of the old cliché: "To spread oil on troubled waters."

In addition to our air and our water, we have not hesitated to make human sacrifices to the idol of voracious technology. Our nation's highways are nourished by the blood of our children and the reports of the mangled victims of auto accidents make even the carnage of Vietnam seem insignificant. In sheer numbers, slaughter on the highways was approximately five times as great last year as were our losses in the tragic Vietnam conflict. In theory, we commit our youth to Vietnam in pursuit of a noble ideal; we destroy our young men and young women on their way to the neighborhood drive-in.

Over all the world hangs the ultimate symbol of the God of technology—the mushroom cloud of atomic holocaust. Mankind genuflects to that God every time we say we coexist on our planet because of a "balance of terror."

I have never felt that there is any true balance of terror, it is only the product of a universe that is out of balance.

How truly irrational we have become may be seen in the following hypothetical example. It is a basic assumption of the cold war, at least in some quarters, that should the American way of life be fatally threatened, we should incinerate those who oppose us. This would, of course, result in our own incineration and quite probably the fallout would make our globe uninhabitable. Yet, those who advocate this course of future action are acclaimed as realists and patriots.

But any man who would propose that all industry stop and all autos be taken from the highways in order to make our atmosphere habitable, would immediately be branded as insane.

So it is sane to destroy the whole world and yet it is crazy to take extreme action to make the world livable. The "balance of terror" has certainly unbalanced something.

The bomb, as terrifying as it is, merely promises the extinction of life. All men, be they free or enslaved, have come to some individual understanding with the fact of eventual death. But the latest visitation from the God of technology promises to make us less than human and threatens to make us slaves.

The computer demands that we poor dumb savages offer up our individuality, our dignity, and our privacy.

It provides a new priesthood with a tool to drive us to our knees, to manipulate our actions, to petrify our past mistakes, and makes the sword of Damocles dangle, gleaming with its promise of eventual destruction, in every American's future.

It is extremely important to emphasize that the computer and its applications not only threaten those who are guilty or who wish to conceal their past. The computer threatens us all; yes even that man who must exist somewhere who has never done anything he could not put on his résumé.

The computer is not only a super fast adding machine; it is more than an automated filing cabinet; it is even more than the heart of far-flung communication systems. The application of computer technology, in its most frightening aspect, has perhaps best been described by Erich Fromm in his recently published *The Revolution of Hope: Toward a Humanized Technology*:

"A specter is stalking in our midst . . . A completely mechanized society, devoted to maximal material output and consumption, directed by computers: and in this social process, man himself is being transformed into a part of the total machine, well fed and entertained, yet passive, unalive, and with little feeling. With the victory of the new society, individualism and privacy will have disappeared . . ."

The shattered schemes of all the dewy-eyed utopians which litter the shores of history are now conceivable. All the beautiful idealisms which so quickly turned into ugly forms of fascisms can now be engineered and implemented. Technology has made the world so small and the computer has given men such a powerful instrument of social control, that individual dreams, which became local nightmares, can now be worldwide catastrophes.

Dr. Ida Hoos, of the Space Sciences Laboratory at the University of California, has called my attention to a poem by Martyn Skinner which says it all:

"Gone are the days when madness was confined  
By seas or hills from spreading through mankind;  
When, though a Nero fooled upon a string,  
Wisdom still reigned unruffled in Peking;  
And God in welcome smiled upon Buddha's face  
Though Calvin in Geneva preached of grace,  
For now our linked-up globe has shrunk so small,  
One Hitler in it means mad days for all."

To put it bluntly, all our eggs are in one basket. We can describe where we are by borrowing the terms of one of man's truly great technological triumphs: we are all passengers on 'Spaceship Earth,' following a most uncertain orbit.

This then is the context in which we must consider technology and American society. Ramifications of our actions reverberate in the Capitols of the world; we truly live in a 'Global Village'.

Understanding that we are talking about all men, let us consider what has already happened to many among us who have surrendered totally to the machine and inhuman value systems. Fromm described technological man in these chilling terms: ". . . (H)aving lost compassion and empathy, they do not touch anybody—nor can they be touched. Their triumph in life is not to need anybody. They take pride in their untouchability and pleasure in being able to hurt . . . Whether this is done in criminal or legitimate ways depends more on social factors than on psychological ones."

With the reins of computer technology in such hands, we may very well be racing to our

own destruction. Certainly a free spirit is the most obvious victim of such breathing robots, and free government is not far behind.

Dr. F. A. Hayek, who was professor of moral and social science at the University of Chicago from 1950 to 1962, puts the ultimate threat in these terms:

"Man owes some of his greatest success to the fact that he has not been able to control social life. In the past the spontaneous forces of growth asserted themselves against the organized coercion of the state. With the technical means of control now at the disposal of Government, such assertion may soon become impossible."

The assertion of which Dr. Hayek speaks is not only that of organized groups striving to control policy; it is also individual man himself yearning to be a part of the world and to influence the course of events which affect and alter his times. Fromm makes the extremely valuable point that if man were infinitely malleable, if social pressures could force man into any mold, there would never have been any revolutions. Man, however, simply is not made that way. Fromm describes man in these terms:

"The dynamism of human nature inasmuch as it is human is primarily rooted in this need of man to express his faculties in relation to the world rather than in his need to use the world for satisfaction of his physiological necessities. This means: because I have eyes, I have the need to see . . . because I have a heart, I have the need to feel . . . in short, because I am a man, I am in need of man and of the world."

The countervailing force which technology and the computer put at the service of repressive interests has been described by a New Left critic of the American scene. I certainly do not endorse the totality of Paul Goodman's ideas, but he does make a number of provocative points. In *Like a Conquered Province*, Goodman says:

"Human beings tend to be excluded when a logistic" (that is, a computer-oriented) "style becomes universally pervasive, so that values and data that cannot be standardized and programed are excluded, when function is adjusted to the technology rather than technology to function . . . when there develops an establishment of managers and experts who license and allot resources, and which deludes itself that it alone knows the only right method . . . then common folk become docile clients, maintained by suffering, or they are treated as deviant."

Fromm and Goodman are suggesting a crucial point to those of us in this room. We all have a sizable stake in America as it is today; while we do not oppose change and are undoubtedly not reactionaries, yet we are all, I would suspect, conservatives in the sense that we believe we must build upon the past. Riot and rebellion are obnoxious to us all and we would unite in condemning violence as an instrument of social change. But the question must be asked: does our emphasis on the manipulations of technological culture deny man the opportunity to express himself? Has the erection of intricate social systems which demand, at the very least, the acquiescence of the minority, placed roadblocks in the way of the rational use of human beings? In my view, Fromm and Goodman are implying that imposing a mechanistic culture between man and his needs to affect the world creates rebellion.

Here may indeed be the roots of the violence we see around us. Articulate and aggressive segments of our society are clamoring for increased participation in the decision-making process. Blacks, hippies, students, ghetto parents, and members of the dissenting academy are united in demanding a greater piece of the action or, at the very least, a heightened sense of personal involvement in and control over their own destinies. All around us we see real anger, spreading disenchantment with the political process, and a frequently hysterical assault against the bastions of orthodoxy. Let me make it clear: I believe there is no validity in violence, but in condemning the action of others we must ask ourselves if we do not bear some

of the responsibility for creating an environment which, by its inhuman systems approach, contributes to the creation of violence.

When I began my studies of privacy over five years ago, I felt that the reaction of man to a depersonalized atmosphere could be expressed by a quotation from Alfred North Whitehead:

"Men might sink into mere routine repetition of habitual acts and accustomed social processes at a fairly low level, almost brainless, as certain insects can run a stable society though they have no brains."

But seeing problems by the light of the burning ghettos must force a re-examination of all our concepts and a re-evaluation of social and political modes. In any event, it is perfectly apparent that not all "common folk" have become the "docile clients" envisioned by Goodman.

Robert Theobald is concerned with the impact of science and technology on society and the economy. He has written extensively on the problems of modernization, technological change, and economic growth patterns. In 1964, he made a statement which I feel is quite relevant to the issues I am discussing with you this evening:

"Whether increasing violence and social disorder can fairly be laid at the door of the computer is, however, peripheral to the possibility of the development of a police state . . . the generalized use of the computer as a means of societal control threatens to destroy at least the right of privacy, and very probably all the present rights, of the individual . . ."

Theobald is not given to making such statements lightly and it is interesting to note that he underlined the "all" in that quotation.

Two years later, in July 1966, my Special Subcommittee on Invasion of Privacy was presented with a proposal which probably would have done exactly what Theobald warned might happen. This was the Bureau of the Budget suggestions for a National Data Bank. Those hearings have been so widely discussed that I do not feel I should go into the full story now.

*Privacy and Freedom*, a brilliant 1967 book by Dr. Alan Westin, and the soon to be published *The Death of Privacy*, by Dr. Jerry Rosenberg have lengthy sections which describe the ramifications of our hearings.

The general problem of computer privacy is now receiving influential attention. The American Academy of Arts and Sciences' Committee on the year 2000 has a working party on "The Social Implications of the Computer." The Director, Dr. R. M. Fano of M.I.T., has informed me that at least a dozen papers will be published this year. The National Academy of Science recently formed a Computer Science and Engineering Board. One of its major undertakings will be to conduct a heavily financed study of computers, data banks, and privacy. Finally, the Harvard University Program on Technology and Society will publish a collection of papers this summer under the title *Information Systems and Democratic Politics*. My 1966 speech, "Science, Privacy, and Law—The Need For a Balance" is to be included.

There is one point I made at the 1966 hearings on "The Computer and Invasion of Privacy," which seems generally misunderstood. I said that we could not be sure that the data contained in such a National Data Bank system would always be used by benevolent men or for benevolent purposes.

Some people felt I was questioning the integrity of officials connected with federal statistical programs: that is certainly not true. In fact, I have a great deal of respect for federal officers involved in data collection and publication but my point was, and continues to be, that we cannot guarantee the level of responsibility of the future users of federally compiled dossiers on Americans.

In addition, it is certainly not a matter solely of integrity. Let me quote a statement made by Supreme Court Justice Brandeis in 1928:

"Experience should teach us to be most on our guard to protect liberty when the government's purposes are beneficent. Men born to freedom are naturally alert to repel invasion of their liberty by evil-minded rulers. The greatest dangers to liberty lurk in the insidious encroachments by men of zeal, well-meaning but without understanding."

Erlich Fromm provides yet another insight about decently motivated social planners:

"Precisely because the more conventionally minded managers do not lack good will, but rather imagination and vision of a fully human life, they are even more dangerous, from the standpoint of humanistic planning . . . In fact, their personal decency makes them more immune to doubts about the methods of their planning."

A viable democracy depends on an atmosphere in which people can go their own way for the vast majority of their daily experiences and satisfactions. Freedom from either subtle or overt coercion is the birthright of our citizens. In a nation as large and as complex as America, which contains so many different ethnic and cultural heritages, no one class of men—no matter how well educated or how nobly motivated—can impose the standards of their group on the remainder of American society.

I would like to illustrate this from first hearings conducted by my Special Subcommittee on Invasion of Privacy. In 1965, we investigated in-depth the premises, principles, and procedures of those who create and administer psychological tests. These were decent liberal men whose goal was to understand our society and to move toward a sound, scientific explanation of interpersonal relationships. Yet, they created tests which virtually mirrored their own preconceptions. To prove you were adjusted, you had to prove it on their terms.

For example, in one widely used test, a preference for Lincoln over Washington is marked as an exhibition of a feminine characteristic. When I put the question to the experts who were testifying that Sonny Liston would undoubtedly prefer Lincoln because he had freed the Negro people from slavery, I was met with a stunning lack of understanding. I pressed the question and innocently inquired which of the experts before me would care to be the one who informed Sonny Liston that he was unmasculine; there were no volunteers.

Another question which was asked on this test was "Do you believe in the second coming of Christ?" This was placed in the test, I was informed, to determine the depth of religious feeling in the person taking the test. I inquired if this question were removed from tests administered to Jews and other religious groups, since they did not accept Jesus of Nazareth as the Messiah. It was hardly conceivable to my expert witnesses that anyone could have values totally different from their own and I was met with all sorts of stylish evasions.

This points up a very real danger of standardization and social rigidity which might flow from such a powerful instrument as a National Data Bank. The very same people who are actively lobbying for a truly effective statistical center, containing individual identifying information, are those who devised tests which characterize Sonny Liston effeminate and Rabbi Wise irreligious.

I would now like to describe a plan I heard proposed in absolute sincerity by some of the most respected social scientists in our nation.

It is widely believed that successful Americans must know how and why some Americans have failed. Perhaps I should put that a little differently and say that some Americans just cannot understand why other Americans are not carbon copies of themselves.

Be that as it may, one way in which America is meeting the problem of poverty is to assist in the construction of low-cost housing. This is certainly socially beneficial and I have cast many votes in the Congress to attempt to insure each American a decent place to live. Yet, the social scientists, in their zeal to discover more and more about

the disadvantaged citizen, proposed to use low cost housing as a great pool of research and those who lived in it as guinea pigs. They seriously proposed to bug each room in each apartment of a federally sponsored low-rent project. They would then feed every single sentence uttered by the apartment dwellers into a computer. This computer would then deliver a profile of these Americans and their habits and compare the statistical profiles to Americans who have "made it."

I was outraged when I heard this suggestion and it was not carried out. The casual willingness to turn a citizen's life into a fishbowl did not concern these social scientists; valuable research could be gained and, while the Bill of Rights certainly protected their privacy, it was not relevant to the subjects of the research.

This brings to mind the words of Aldous Huxley: "Who will mount guard over our guardians, who will engineer the engineers? The answer is a bland denial that they need any supervision . . . PH.D.s in sociology will never be corrupted by power. Like Sir Galahad's their strength is as the strength of ten because their heart is pure; and their heart is pure because they are scientists and have taken six thousand hours of social studies."

No matter from what source they may come, unwarranted invasions of privacy must be identified and resisted. Liberty under law is our foundation as a stable nation and it is my conviction that a suffocating sense of surveillance will restrict liberty and, ultimately, undermine law.

Let me speak briefly about the Bill of Rights and praise, yet again, the brilliance of those who drafted it. While privacy is not mentioned by name, the first ten amendments to our Constitution contain provisions guaranteeing rights to the individual which covered completely the range of privacy invasion known in the 18th century. A man cannot be compelled to give up his home to quarter troops; a man cannot be forced to give testimony against himself; a man has the right to face his accuser in an adversary proceeding with the advice of legal counsel. Most important, is one of the most beautiful concepts rendered into the English language. The Fourth Amendment states simply: "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause . . ."

In perhaps its most powerful recent manifestation, Justice Douglas, speaking for the Supreme Court in the *Griswold* Case in 1965, cites a number of constitutional guarantees and proclaims; "... The Bill of Rights have penumbras formed by emanations from those guarantees that help give them life and substance." Sections of the First, Third, Fourth, Fifth and Ninth Amendments create "Zones of Privacy," according to Justice Douglas.

Commenting on the *Griswold* Case in *The Wisconsin Law Review* in 1966, Princeton's Cromwell Professor of Law, William Beaney, states: "... It should be made clear that the privacy to which all persons may lay claim is not a sterile or outmoded individual assertion. It is not a claim restricted to an aristocratic class, or to a few eccentrics who might prefer to resign from the human race . . . A freedom to determine the extent to which others may share in one's spiritual nature, and the ability to protect one's beliefs, thoughts, emotions, and sensations from unreasonable intrusions are of the very essence of life in a free society."

We see then that the Constitution of the United States provides a bulwark against those who would turn America into a total surveillance society. But there are always forces at work to invade privacy in an allegedly noble pursuit or for other less admirable reasons. At the very beginning of the American experience, many saw a threat to our infant free republic in the proposed Alien and Sedition Laws. In the debate over those laws in the 5th Congress, Representative Edward Livingston made a ringing declaration of what would happen to society

should the Federal Government be empowered to strip away protections of the individual. In a passionate speech, he made one of the most accurate predictions of the consequences of future actions against freedom. In 1798, Livingston said:

"The system of espionage being thus established, the country will swarm with informers, spies, delators, and all the odious reptile tribe that breed in the sunshine of despotic power. The hours of the most unsuspected confidence, the intimacies of friendship or the recesses of domestic retirement will afford no security. The companion whom you most trust, the friend in whom you must confide, are tempted to betray your imprudence; to misrepresent your words; to convey them, distorted by calumny, to the secret tribunal where suspicion is the only evidence that is heard."

Let me repeat; that was 1798, not 1984!

To make the Bill of Rights a living entity in a technologically sophisticated world requires unceasing vigilance. The dangers described by Representative Livingston in the 5th Congress are still facing those of us in the 91st Congress. For the United States now has the capacity to establish a system of strict records surveillance which was, and is, the hallmark of European totalitarian states and which was specifically rejected by our Founding Fathers. The files of federal, state, local and private agencies bulge with dossiers on Americans. A perfectly understandable thrust toward making the operation of these agencies more efficient and economical has encouraged the use of computerized information systems. The most recent investigation of my Special Subcommittee on Invasion of Privacy brought forth the statement that one private credit organization confidently expects to have the record of every man, woman, and child in the country within its computerized system in five years. An individual's credit history can be retrieved and read anywhere in the country within two minutes after the request is initiated.

This tremendous ability to store and retrieve data has a basic effect on America. Throughout history, we have been known as the nation of the second chance. Immigrants flocked to our shores because we offered a new beginning for people who found other societies frustrating and repressive. Yet, the ability to weave a web of data around each individual, to recall every event of a person's past, threatens to make this a one chance society.

In the same sense, we witnessed an internal migration in the 19th century. Our growing population could expand throughout our unused lands within the borders of America. The concept of a frontier was an essential precondition to the expansiveness of the American society and, as Frederick Jackson Turner pointed out, helped shape the American character.

New space for the body created a new life for the mind.

This brings me to the final portion of my speech this evening and to what I would regard as its most significant section. The argument over privacy is frequently confused by the belief that it is space alone that is the subject under discussion. This narrow emphasis permits the legitimate objection that man is a social creature and that he demands interaction with his fellows.

If privacy merely refers to a physical area, this view is perfectly correct. Everyone knows that city life lacks many of the comforts and graces of rural life, and yet urbanization is perhaps the central fact of population movement throughout history. So it would be foolish indeed to ignore the absolute necessity for man to seek the company of neighbors. Yet, most observers have found an equally powerful counterforce and that is withdrawal from society for certain periods.

In 1961, Sociologist Erving Goffman described this basic conflict in these terms:

"Our sense of being a person can come from being drawn into a wider social unit; our sense of selfhood can arise through the little ways in which we resist the pull. Our status is backed by the solid buildings of the world, while our sense of personal identity

often resides in the cracks."

The concept of space for the health of the societies of lower animals was the subject of a brilliant book by Robert Ardrey. Published in 1966, *The Territorial Imperative* sets forth example after example of animal behavior which suggests that the physical ordering and control over space is a basic drive. This powerful instinct in lower animals is shown to precede mating and is demonstrated as the major way in which one individual differentiates itself from the rest of his species. Ardrey makes a compelling argument that demands the conclusion that what operates so universally in animals is relevant to understanding human nature as well.

I would like to suggest to you that the personality needs a psychological living space just as the body insists upon an area of physical autonomy. I believe that *The Territorial Imperative* in lower animals has a counterpart in man which I call *The Intellectual Imperative*. The Intellectual Imperative is as essential to mental health as *The Territorial Imperative* is to a sense of physical security. In my view, psychological integrity is as important as bodily integrity. A stable society cannot be constructed or maintained if illegal searches and seizures are permitted through a man's ideas and beliefs while his papers and effects are protected by law.

When I first raised questions about the validity of the use of the polygraph five years ago, I called it "mental wiretapping." Of course, the fact that lie detectors just did not work at any reliable level of accuracy was important to my opposition as well as the fact that the training of the polygraph operator was frequently so incredibly sloppy. But, basically, what I objected to was that there is a portion of man that no one can invade without the full approval of the individual. In no case should it be a precondition for employment at lower or clerical levels, which was the situation I uncovered in certain federal agencies in 1964.

In 1958, Pope Pius XII made this statement: "And just as it is illicit to appropriate another's goods or to make an attempt on his bodily integrity without his consent, so it is not permissible to enter into his inner domain against his will, whatever the technique or method used."

Similarly, the spread of information about a man must be under his control. Naturally, in the pursuit of a stable society, law must be maintained and the tools that science and technology have provided us must be used to preserve the rights of those who obey the law. But, as I believe I have demonstrated, technology frequently operates by its own laws which are occasionally peripheral, at best, to the purposes of society. To conduct a normal, healthy life a man must have privacy and this means that he must have areas where he is assured of protection from what Livingston called "the odious reptile tribe."

Professor Charles Fried of the Harvard Law School puts the need for privacy in extreme terms. He says:

"Privacy is the necessary context for relationships we would hardly be human if we

had to do without—the relationships of love, friendship, and trust. Intimacy is the sharing of information about one's actions, beliefs, or emotions which one does not share with all and which one has the right not to share with anyone. By conferring this right, privacy creates the moral capital which we spend in friendship and love."

In my concept of *The Intellectual Imperative*, man may choose those in whom he wishes to confide. He may discuss any issue in any terms he may desire and be assured that an indiscretion of phrase or even an indecency of thought will remain private. A space of psychological control permits ideas to be discussed freely and openly within his territory and with the guarantee that strict public accountability will not follow. It is just this blurring of the public and the private which makes invasion of privacy so obnoxious to personal integrity and to civilized society. No idea springs, like Athena from the head of Zeus, fully formed. The translation of idea into insight, of knowledge into wisdom, follows as many different courses as there are individuals who think. It is impossible to produce a flow chart which can predict or channel the maturation of a thought.

This leads to the psychological truth that the betrayal of intimacy is, in essence, the greatest invasion of privacy. But it is equally harmful to society if the experiences of private life become shallow. If you cannot reside in an atmosphere of security, if you must remain guarded—suspicious of those in whom you confide—you diminish the commitments of private life. And without something to defend, without relationships of trust and love in your private life, you are going to have little reason to strongly defend the public welfare.

What I am saying is that *The Intellectual Imperative* permits man to strengthen his belief in abstractions like patriotism by creating personal realities like friendship and trust. I believe that my concept of the Intellectual Imperative leads to the point that you cannot love anything, if you are afraid to reveal yourself to another.

The control of the flow of information about yourself, about your actions, about your beliefs, is then seen as a crucial aspect of a dynamic society. Urban mass culture has destroyed for most of us the opportunity to exercise freely *The Territorial Imperative*; the advance of computer and other technologies threatens *The Intellectual Imperative*. Physically, we are constantly in a crowd; intellectually, technology has provided devices to make our forgotten actions and our unacknowledged thoughts known to the crowd. This is, I believe, what is meant by depersonalization and dehumanization and, as I have tried to suggest earlier, may be a root cause for the violence in our nation.

The American use of technology has made man immense—within the next few months, a human footprint will be on the surface of the moon. Yet technology has also diminished man and threatens to make him less than human. While every computer card received

from a large organization as a bill, a financial statement, or a summation of personal history carries the warning "Do not fold, mutilate, or spindle," individual man receives little assurance from the sender that he himself will not be folded, mutilated, and spindled.

There are those who say that anyone who criticizes the forms taken by the new technology is somehow against technology and, therefore, progress. There is the implication that the expression of some of the views I have given you this evening would have caused me to oppose the use of indoor plumbing because it destroyed a society based around the village pump. This is simply not true. To paraphrase Shakespeare, I come to praise the new technology, not to bury it. But at the same time, we must praise man and see that he is not buried under computer-generated data. Computer professionals by and large know the limitations of their machines and they know that the output of a computer is dependent on the quality of the data fed in. The standard acronym is GIGO: Garbage In: Garbage Out. My purpose is to disabuse nonprofessionals of the notion that it really means Garbage In, Gospel Out.

At the beginning of this speech, I constructed a slightly facetious example of technology as God and man as humble penitent. Some of the most vocal defenders of the unevaluated use of technology sound very much as if they truly believe they are theologians and that they are justifying the operations immutable laws, which are unchangeable because they are the dicta of divinity.

I take quite the opposite view. Tools are for the use of man and their valid use does not harm man; only their abuse does. Although I may be widely known as a computer critic, I firmly believe that the forceful assertion of privacy need not be contradictory to the fullest exploitation of the miracle of electronic data processing. The computer is as vital to efficient government as civil liberties are to the citizen's confidence in democratic government. This search for a balance, the attempt to isolate and control the toxic elements in the tonic of technology, is now a major challenge. For, basically, it challenges our faith in ourselves, it challenges our ability to use our skills in the service of man.

John Diebold has probably coined more money from the new technology than any other man; he even coined the word "automation." In 1964, he made the statement with which I would like to close my speech.

"The problem of identifying and understanding goals to match the new means that technology provides us is the central problem of our time—one of the greatest problems in human history. Its solution can be one of the most exciting and one of the most important areas for human activity. And the time is now."

In 1969, even more than ever, the time is now.